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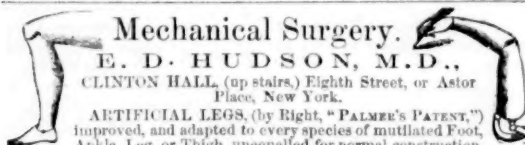
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By A. JACOBI, M.D.,

PROF. OF INFANTILE PATHOLOGY AND THERAPEUTICS.

LECTURE X.—PART II.

Amount of Water in Rachitical Bones.—Elimination of Phosphates and Lactic Acid.—Increased Elimination or Decreased Assimilation.—Absence of Proteinous Substances and Rachitis.—Loss of Phosphates and Rachitis not identical.—Chemistry of Rachitical Bones and of those only deprived of Phosphates.—Slow Dentition the Cause of Rachitis, or Rachitis the Cause of Slow Dentition?

The anatomical structure of both the normally growing and the rachitical bone is the same; further, the amount of carbonic acid is increased in both the new deposits of the growing and in the rachitical bone. Thus the direct connexion between, or dependency on each other, of the normal development and the rachitical deformity of the osseous tissue is evident.

The principal deviation of the chemical constituents consists in the increased amount of water. Friedleben found in the healthy parietal bone of a child of six months 21.058 per cent. of water; in the rachitical parietal bone at the same age, from 48.383 to 53.574 per cent.; and in that of a rachitical child of eight months, as much as 81.533 per cent. The occipital bone of a child of a year and two months, with normal skeleton, yielded 41.931 per cent. of water, while the parietal bone of a rachitical child of the same age yielded 66.314 per cent. in the recent deposits, the old subjacent lamina vitrea yielding but 34.221 per cent. The same author found in the normal diaphysis of the tibia of a healthy child of six months, 21.323 per cent. of water; of a rachitical one, at eight months, 44.790; in the spongy part of the former, 64.037; of the latter, 76.912. The same bones of children of a year and two months, one healthy, the other rachitical, yielded a similar proportion, viz. 43 and 72 per cent. The normal ribs of a child of six months contained 44.305 per cent. of water, the rachitical, 54.809. In other children this percentage would increase to 59.64, and even to 66.105.

The increased amount of water contained in the rachitical bone forms a sort of serous mollicification, which in itself may be sufficient to prevent the cartilage and newly formed bone from assimilating as many phosphates as under normal circumstances. For it appears, doubtless, that with so considerable an amount of water contained in the osseous and cartilaginous tissues their chemical affinity generally should be changed. At all events an older explanation of the rachitical bone being deprived of a part of its phosphates is very improbable. Many authors have expressed this opinion, that the phosphates were kept dissolved in the blood by a superabundance of lactic acid, and were, in company with the latter, eliminated through the kidneys and bladder. A part of the chemical investigations which have been made for the purpose of elucidating this matter, have appeared to be favorable to this opinion, as not only lactic acid, but also a large amount of phosphate of lime, has been found in the urine of many rachitical children. But in order to explain the want of phosphates in rachitical bone, in this manner, the presence of phosphates and the occurrence of lactic acid in the urine of rachitical children ought to be constant; which is by no means so

in all cases. Rachitis will very often develop without the prevalence of disorders of digestion and a surplus of lactic acid, and surely, the swelling of the epiphysis and periosteum, which are just as essential for the diagnosis of rachitis, cannot be explained by the premature elimination of phosphate of lime. Virchow, moreover, has long ago expressed this opinion, that probably the diminished import of phosphate was of more importance in the rachitical process than the augmented export. At the same time he directs the attention to the repeated eulogies of the administration of carbonate and phosphate of lime, in rachitis. He also reminds us of the fact, that the larger part of phosphates are introduced into the system in combination with proteinous substances, and the digestion and assimilation of these latter are greatly interfered with in those gastric disorders, which frequently precede fully developed rachitis. But again, he asks, why it is that gastric disorders are not always the initiatory step of rachitis; that further, the bones should suffer in preference; and finally, that, in spite of diminished import, the epiphyses and periosteum should be tumefied. Therefore, we need not wonder that other authors, for instance Niemeyer, consider as the fundamental cause of rachitis, a nutritive disorder in the epiphyses and periosteum kindred to inflammation. This author points to the fact, that in other tissue, as skin and mucous membrane, we frequently meet with diffuse affections of exanthematous or catarrhal nature, the causes of which are totally unknown to us, but which, though not constantly, are principally found in cachectic, badly nourished, and rachitical children. And that, after tumefactions have once commenced, the impeded circulation should prevent the phosphates from being deposited to a sufficient amount, and favor their immediate elimination through the kidneys; that therefore the usual superabundance of phosphates in the urine of rachitical children must be taken as consequence rather than as cause of the want of phosphates in the diseased tissue, is but natural, especially after those remarks I have made before, on the influence of the increased amount of water in the osseous and cartilaginous tissue.

To what extent Virchow is right in directing our attention to the connexion between rachitis, which is very common among the poorer class of society, and the absence of proteinous substances from the food, either breast-milk or artificial, is shown by everybody's and everyday's experience. Böcker found in the milk of a mother, who nursed a rachitical child until it died at the age of fifty-three days, in 1000 parts, but 13.111 of caseine, 23.31 of butter, 69.358 of sugar, and only traces of phosphates to the amount of 0.089. Friedleben has, in his "Contributions to the knowledge of the physical and chemical contributions of growing and rachitical bones, in early infancy," the following remarks:—I examined the milk of two women, whose children were brought up with breast-milk exclusively. The skeletons of both were rachitical in their totality; both recovered, but only after their diet had been changed. One was a turgid, pale woman, of forty-six years, who had been bled several times during her pregnancy. Two specimens of her milk were examined, the first in the fifth, the other in the sixth month after the birth of her child. The analysis yielded, in 100 parts, in

No. 1.	No. 2.
Water, 87.829.	Water, 87.830.
Butter, 4.390.	Butter, 4.390.
Caseine and sugar, 7.542.	Caseine and sugar, 7.542.
Inorganic matter, 0.239.	Phosphate of lime, 0.069.
	Alkaline salts, 0.169.

The milk of the other woman, four months and a half after the birth of her child, looked thin and serous like that above. Since her confinement, being at work and without medical attendance, she had been suffering from uterine hemorrhages. She was tall and slender, and nearly forty years old. The analysis of her milk resulted in the following figures. In 100 parts of milk there were,

Water,	91.307.
Caseine, butter, sugar,	8.509.
Phosphate of lime,	0.099.
Carbonate of lime,	0.010.
Alkalies,	0.073.
Oxide of iron and silicium,	0.002.

The normal proportions in the healthy milk, not to speak of constitutional and other oscillations, differ considerably from the above, as is proved by the following figures of the several percentages of normal milk:—

Water,	86.60.
Caseine,	3.50.
Sugar,	6.20.
Butter,	3.50.
Soluble Salts,	0.06.
Insoluble Salts,	0.14.

From these statements it follows, that the milk of both women was below the average rate of proteine and hydrates of carbon. The earthy salts were also diminished, but they were fewer in the first case than in the second, while the rachitis of the second was more decidedly developed than that of the first. Nothing else is required to prove, that the diminished import of phosphates is neither the only nor the principal cause of rachitis.

At all events then, this much is understood now, that there are other important elements in what we have been used to call rachitis besides the diminished amount of phosphates; and that want of phosphates, and rachitis, are by no means identical. Nor is the very nature of rachitis explained by, or comprehended in, the process of resorption. This is best shown by those physiological experiments which allow a free absorption, but less access of earthy salts and phosphoric acid. Chossat has made the first series of such experiments. Friedleben made similar ones, allowing a number of pigeons no other food but vetches and distilled water. Through five or six months they appeared to be well; then diarrhoea would set in, emaciation take place, and death from exhaustion ensue in the tenth month. The chemical analysis of their bones, compared with those of healthy pigeons, resulted in the following figures:—

Pigeon.	Bone.	Anorganic matter.	Organic matter.	Fat.	Carbonic Acid.	Spec. gravity when dried at 80°s.	Spec. gravity when dried in open air.
Healthy	diaph. humer.	64.603	85.397	7.110	8.571	2.692	1.822
	diaph. ulnae, et radii.	87.712	62.288	12.084	6.842	2.068	1.762
Diseased							

A further difference was this, that jelly could be formed of the bones of the healthy pigeon in eleven, of the diseased in five minutes. Thus, as gluten was the organic basis in either, the chemical constitution of the diseased bones, as far as organic matter was concerned, was not at all altered. But there were a number of other differences between this diseased bone, and the rachitical tissue. The amount of earthy salts decreased to nearly one-half of the normal percentage; fat increased; specific gravity less. Carbonic acid twenty-five per cent. less than in the bones of the healthy bird. No tumefaction of epiphyses or periosteum. These results depend on diminished assimilation, which, moreover, is distinctly proved by anatomical examination of the diseased bones. They are thin, fragile, not flexible; they are anæmic, and their medullary canals very wide indeed; the surface is uneven; there are intervals, interruptions, between the remnants of the bone and the dispersed osseous corpuscles, which are much less numerous and less regular than normal, to such a degree that Haversian canals between them are not recognisable. There was nowhere a trace of recent formation, only the proofs of normal absorption.

Now, after having sifted to some extent whatever is

known to this very moment on the anatomical and chemical nature of rachitis, the most recent results included, and alluded to the usual alleged causes of this disease, I need hardly return to my former assertion, that dentition as such, and rachitis, are in no causal relation to each other; at all events there is no such connexion between the two that the process of the protrusion of teeth could produce rachitis. Not to speak again of the want of phosphates alone not constituting rachitis, the amount of these salts slowly assimilated for the formation of some teeth is very small in proportion to what is contained in the food. But surely, the largely diminished amount of phosphates introduced into the system (not only into the stomach), as being the result of the rachitical process, well explains the slowness with which the teeth form and protrude in rachitical children, and the simultaneous retardation of walking, and the slow ossification of bones generally. At another place, and in a former lecture also, I have spoken at some length of these matters. Thus we need not wonder that a rachitical child who has no tooth at a year or later, cannot walk at the normal period, nor that its cranial sutures and fontanelles are not closed before the second or third year. But these latter anomalies do not depend on the retardation of the appearance of teeth, but all of them—retardation of the closure of the cranial bones, retardation of walking, and retardation of the protrusion of teeth—all of them are to be considered as the contemporaneous and co-ordinate results of the same fundamental morbid process.

Original Communications.

REMARKS ON ALBUMINURIA,

MADE BEFORE THE NEW YORK ACADEMY OF MEDICINE.

By A. CLARK, M.D.,

PROF. OF PRACTICE AND PATHOLOGY.

(Continued from page 19.)

At the time this woman was in the hospital, there were two others under my charge in whom these same symptoms were the only urgent ones; and during the six months that Dr. Thomas was house physician, he collected in the whole hospital seven similar cases, including these three, and published them in one of the journals.

Convulsions are not very unfrequent in both of the forms of Bright's disease that have been referred to, and I suppose that we are compelled to infer that they are the direct effect of the ureal irritation upon the cerebral matter, inasmuch as the experiments of both Frerichs and Hammond show that when urea is injected into the circulation of animals, convulsions will be the result, if it be not promptly eliminated. We find also that in a certain class of cases, convulsions are rather to be looked for when we know that there is urea in the blood, or at any rate albuminuria. This poison seems to have the same tendency to the brain that opium has, operating, however, differently; that is to say, its vital affinities are for the cerebral matter. It is true that convulsions are not among the most frequent symptoms of Bright's disease, still they are the most alarming when they do occur. It is worthy of note, that in some of the cases in which the contracted kidney is the characteristic of the disease, it is the first symptom that attracts the attention. I could cite a good many instances, illustrating this point. I will, however, refer to but one, that occurred in the practice of Dr. John C. Cheesman.

Three years ago a merchant in rather delicate health, but still sufficiently strong to pursue his business, was suddenly and unexpectedly seized one evening with convulsions. He had not previously been sick enough to consult a physician. He had several of these attacks in the course of the night, and died in the course of the next day. The

post-mortem examination revealed the existence of contracted kidney, and no other disease which could have caused his death. One of the kidneys weighed only an ounce and a half. Several similar cases, though not terminating so suddenly, have come to my knowledge, or under my observation. It is not uncommon to find these convulsions where oedema exists. I remember that in the fifteen cases that I gave the history of to the students at the hospital, there were three in which convulsions were a striking feature, and in one the cause of death.

Another important fact in these cases, is the very singular and marked tendency to inflammations of a grave character. One-half of the cases reported by Wilks died of acute inflammations, and among these are recorded pericarditis (a little more frequent than the others), peritonitis, pleurisy, inflammation of the meninges of the brain, pneumonia, erysipelas—inflammation of the leg, spontaneous, in one case, and occurring from acupuncture in another, and so on. I have looked into Bright's famous one hundred cases, and find the same thing true, that about one-half died of acute inflammation. My own cases teach about the same lesson, as will be seen further on.

I will next state a practical circumstance of considerable importance, and hope with it to conclude my remarks this evening—it is the peculiar influence of certain powerful nervine medicines upon those whose blood is more or less loaded with urea. It has been my fortune to see in one single week three persons die from taking doses of morphine or other opiates, that would have been safe under ordinary circumstances. In one instance, one-half a grain of morphine produced death; and in another instance, forty drops of laudanum were given in the evening and the dose was repeated in the night for a pain in the finger, caused by—I do not remember what—and the next day the young man died, and I witnessed his death. In another instance twenty-five drops of laudanum produced the same result in a child eleven or twelve years old, and in this latter instance it was given for some supposed inflammation. The mode in which death occurs under these circumstances, is a little peculiar. It is not always from a profound opiate narcotism; the patient in some of the cases is disposed to move from side to side, and to moan more or less, but he does not pay any attention to questions that are asked him. The pupil is not contracted. The pulse grows more and more frequent, more and more feeble, until it finally ceases to beat. In some of the cases a sort of half coma, not unlike that produced by opium alone but less profound, seems to be the termination, rather than the restlessness. When once these unpleasant symptoms have shown themselves, I have never seen them relieved; I have come, therefore, to be exceedingly cautious in the administration of large doses of opiates, where it is known that there is Bright's disease. The same thing is true of certain other medicines that have a decided influence upon the nervous system. This will perhaps be better illustrated by the synopsis of a case:

In the practice of Dr. Hyslop was a young woman that had pericarditis, and it was not known that she had Bright's disease. She was taking a moderate amount of digitalis, and the doctor came to me one evening, saying that her pulse had gone down suddenly to thirty or forty, and that she was in a good deal of distress. This was a result which could not be explained by the dose of the medicine that was given. I said to him, "we will go down and see her, and I have no doubt we shall find albumen in her urine." We took a test tube with us, and it was as we supposed. This young woman did not die in this condition, although she suffered a good deal of distress, and her sense of sinking was very marked. Her pulse finally came up to a safe standard, and she afterwards died of complications of the principal disease.

I have found the same results follow the use of veratrum viride and aconite, and I have been half tempted to believe that the digitalis has no more the cumulative effect that is ascribed to it than most other remedies, but that it has

earned for itself such a reputation by its action in cases where there is urea in the blood, the urea aiding the medicine in producing its effects upon the nervous system.

May 21.—It will be remembered, Sir, that at the last meeting of the Academy I went over a considerable number of the symptoms that frequently attend albuminuria, and made several general statements with reference to the nature of the disease. These latter I shall not now recapitulate. Among the symptoms then considered were the amaurosis, which was supposed to depend in a considerable degree, if not wholly, upon a fatty degeneration of the retina; the flatulent dyspepsia; the distressing sensation across the region of the stomach; the flatulent condition of the intestine; the vomiting, sometimes almost the only existing symptom; the acute oedema of the lungs; the dyspnoea, sometimes nervous, sometimes depending upon this oedema; inflammation of various organs of the body; convulsions; the intolerance in persons whose blood is laden with urea of certain medicines that affect the nervous system, like opium, veratrum viride, aconite, and digitalis; and the cachexia. These were the symptoms that were reviewed when I first had the honor to have the ear of the Academy upon this subject. I propose now to consider a few more of the symptoms somewhat in the same manner, and then go on to some other branches of the subject.

Among the occasional symptoms that I would remark on, is *headache*. This is by no means a constant occurrence in the progress of Bright's disease of the kidney, but it occurs often enough to make it worthy of mention, and when it does occur it is apt to be of considerable duration, and is also apt to be a source of a good deal of inconvenience. I know of no definite explanation of the symptom, but its occurrence in men especially, deserves consideration, inasmuch as they are not very subject to headache except for special causes.

Pain in the back is usually enumerated as one of the symptoms of Bright's disease, but I have learned to consider it of very little importance. In the early study of the disease I always inquired for it, and if it was not present, I had the conviction that it was very likely that no such disease as I was seeking for existed. The more I have sought for it, however, the less I have been taught to rely upon it. It is more frequently absent than present. If the sensation be a dull aching in the loins, extending downwards to the hips, thighs, and organs of generation, it may have its origin in the kidneys; but the pain most commonly complained of is seated in the muscles of the back. I name the symptom for the purpose of saying that it does not deserve that amount of consideration which is usually given to it.

Difficult Diaphoresis.—Another circumstance frequently enumerated among the symptoms is worthy of passing notice, that is the difficulty in some cases in procuring a free diaphoresis. It is almost always stated in books upon the subject, that a dryness of the skin and scanty perspiration mark this disease. This is certainly true of a proportion of the cases as they are seen in the hospitals where the diaphoretic plan of treatment is resorted to—but I do not think that such is the case in the majority of instances. Now and then a patient will be found whose surface becomes very red under the influence of heated air, or the hot air bath, as it is sometimes called. He may suffer from the symptoms of an artificial fever, so to speak, without perspiring afterwards, and yet it is true that many can be made to sweat as freely as other persons, and in these, of course, the employment of external diaphoretics will be most effectual.

In regard to the condition of the urine.—I suppose, sir, that there is nothing more variable than the quantity of urine voided by different patients in Bright's disease. I believe, however, it is very generally true in the beginning of the disease, and at the end of it, that the urine is scanty and often high-colored, but in its progress, after the disease has lost the influences of the first congestion, it very often becomes copious, and continues so for a length of time; it

becomes pale, and is usually of a low specific gravity. I observe that Dr. Bulkley, in a lecture recently published in the *American Medical Times*, refers to a certain number of cases observed at the N. Y. Hospital, in all of which a large quantity of urine was passed—in some of the cases the amount equalled a hundred ounces daily. This I am compelled to believe is an unusual quantity. I have had some observations taken with reference to this fact—they are, however, not very extensive, and consequently not very reliable. In five of the cases, where diaphoretic medicines were taken, the quantity of urine was considerable, but where the kidneys were not stimulated the quantity was not very great. As for example, a patient taking Rochelle salts gives the following quantity of urine passed during each of eleven days, 80, 72, 74, 64, 54, 45, 50, 58, 74, 34, 32 ounces. Another who was taking iodide of potassium, passed 67, 62, 65, 50, 52, 54, 34, 30, 34, 24, 36, 34 ounces. In another who was not taking any medicine, we have the following figures, 25, 20, 16, 20, 34, 27, 30, 34, 38, 44, 40 ounces. In another the quantity passed per diem was measured in pints, 3, $3\frac{1}{2}$, $2\frac{1}{2}$, $2\frac{1}{2}$, 3, $3\frac{1}{2}$, 3, $4\frac{1}{2}$, $3\frac{1}{2}$, $3\frac{1}{2}$. That is sufficient for an illustration. I say again, the quantity varies markedly, and I believe the general rule is that if diuretic medicines are not taken the quantity of urine passed is smaller than in health. It is specially noticeable in a considerable number of these cases, as the disease is approaching an unfavorable termination, that the quantity of urine diminishes, so that often during the last thirty-six or forty-eight hours the amount does not exceed a few ounces; sometimes it is entirely suppressed. Almost always when this condition occurs, it is noticed that the urine, when any is passed, is either bloody or of a very high color. I suppose there is no more unfavorable symptom than suppression or very marked diminution in the quantity of urine.

With reference to *albumen*, *blood casts*, etc., in the urine, I shall refer to them another evening, as I am not yet prepared with a resumé of my observations. But I will say now, while it is well known that albumen is found in the urine in the great majority of cases of Bright's disease, there is a considerable proportion still left in which this substance cannot be discovered up to the hour of death, or perhaps only in the last few days of life; still, all the other symptoms may be marked enough to authorize a diagnosis. The absence of albumen, then, is no proof that Bright's disease does not exist, and for purposes of diagnosis we look for the casts. These are only discoverable, as is well known, by microscopical examination. They vary very much in character. There is the transparent model or a cast of the uriniferous tube, so perfectly transparent that it is called sometimes hyaline, though called also sometimes waxy. These are composed of an exceedingly pale, uniform substance, without granule or globule, cell or nucleus, upon them, and are only seen from the fact of their having a little higher refractive power than the medium in which they are placed. Then to this hyaline cast as a basis are often added granules, fat globules, cells of the uriniferous tubes, and nuclei. These casts are sometimes filled with blood that seems to have undergone a kind of coagulation; and these several forms are called granular casts, fatty casts, blood casts, etc., and I will here remark that the blood casts are not simple coagulations of blood in cylindrical forms, but they are also encased in these hyaline tubes. These casts occur, one or other of them, in the great majority of cases of Bright's disease, whether albumen is present in the urine or not.

(To be Continued.)

In the year 1860, for which the returns have just been issued, 14,775 persons in England and Wales died a violent death—one person in every 1,328. Nearly 13,000 of the deaths are ascribed to accident or negligence; among them 5,417 were caused by fractures and contusions, 1,061 by suffocation (760 at not a year old), 2,264 by drowning, and 3,166 by burns and scalds.

IS IRIDECTOMY A NEW OR OLD OPERATION?

By JULIUS HOMBERGER, M.D.,
OF NEW YORK.

A PAPER with this title, published in a previous number of this Journal, by our excellent confrère, Dr. John O'Reilly, contains several points which seem to me not entirely acceptable, and I beg leave to submit, in response to it, the following remarks:—

The term "iridectomy" has become identical with the term "artificial pupil," since the methods of "iridodialysis," tearing the iris from its ciliary insertion—and of "iridectomy," dividing the iris with a sharp instrument in a radial sense—have both grown obsolete: an iridectomy produces always an artificial pupil, and an artificial pupil is the result of an iridectomy.

Cheselden was the first to perform an operation on the iris with a view to procure the rays of light an entrance in the eye, and since his time the operation, frequently modified, has been executed in numberless cases of obscuration of the cornea covering the pupil, or of closure of the pupil by inflammatory processes. *The object of these operations was a mere optical one.*

De Graefe, our illustrious master, first found an indication for the operation of iridectomy in two forms of disease, glaucoma and iritis. In these the operation is not executed for an optical but for a therapeutic purpose.

A disorganized state of the vitreous, according to Dr. O'Reilly, with increased secretion of the aqueous humor, causing convexity of the cornea, together with almost complete closure of the pupil, thus precluding the entrance of light into the orbit (?) and consequently preventing the formation of external objects on the retina, thus, in truth, rendering the individual blind, caused De Graefe to perform iridectomy.

I may be allowed to state that this is not the idea of De Graefe. Glaucoma depends, according to him, on a peculiar exudative inflammation of the uveal coat. The symptoms of this inflammation are excavations of the papilla of the optic nerve, dilatation of the pupils, anesthesia of the cornea, hardness of the globe, ciliary neuralgia, etc., all of which are the consequence of the *increased intra-ocular pressure*. This pressure causes the disc of the optic nerve to be cupped, produces paralysis of the sphincter pupillæ and anesthesia of the superficial ramifications of the quintus nerve of the cornea; the hypersecretion of the choroid makes the globe more resistant, and the neuralgic affection is explained by mechanical irritation of the ciliary branches of the trigeminus.

I must further observe, that the German surgeons—I proceed to the fourth point of Dr. O'Reilly—do not mean to attribute the effects of iridectomy to the quantity of blood lost during the operation and the escape of aqueous humor, but to the *diminished intra-ocular pressure following the division and excision of the iris*. I believe that the change in the conditions of pressure in the eye, effected by the division of a group of muscles, has a parallel in the influence of division of the sphincter ani in certain diseases of the rectum, and incision of the circular muscular fibres of the vagina in vaginismus.

It is particularly the answer on the sixth question, "*What then is the true explanation of the good effects from the operation as performed by De Graefe?*" which we cannot pass.

The enlarged condition of the pupil is of no use whatever for the sight; on the contrary, it produces a dazzle—besides the pupil, in cases of glaucoma, is dilated almost at maximum. An infinitely small pupil is large enough to allow distinct vision. Iridectomy for "myosis and cases of contracted pupil by continually looking at the smallest objects" (?) will never be indicated, as the use of atropine will not fail to dilate the pupil.

The second indication for iridectomy De Graefe found in cases of chronic iritis and irido-choroiditis, with extensive posterior synochus and exudations in the pupil. The shoots

of these affections invariably form attacks of acute iritis, with exudations in the pupillar space. The extension of the iris has not the object to open the eye to the rays of light, as there mostly exists a sufficiently large pupil—its aim is principally to restore communication between the anterior and posterior chamber, and to remove the nutrient of the exudations in the pupil, and the pupillary margin.

De Graefe and his pupils have obtained the most gratifying results from this procedure. Eyes, with totally disorganized iris, where the inflammation of this membrane had caused the choroid to participate in the inflammation, and where all the sure symptoms of choroiditis, amblyopia, narrowness of the field of vision, and even the beginning of atrophy of the globe existed, were restored to a certain degree of sight. After the excision of the iris the anterior chamber became again of normal depth, the iris a more natural appearance. The symptoms of choroid inflammation disappeared, the *bulbus* readapted its normal size. The exudations in the pupil became atrophied, and the power of vision in many cases reached to almost a normal height.

The analogy of Mr. Ryan's case, quoted by Dr. O'Reilly, with this group of diseases is evident. But Mr. Ryan, according to his own words, operated for the obliteration of the pupil. That he selected a case with the symptoms of chronic inflammation, and dared to operate on a heavily disorganized eye—at a time when an inflamed eye was considered a *noli me tangere*—proves his courage as an operator; but the one remark that "this case had been selected as the most unfavorable that could present itself for the performance of the Cheselden operation," sufficiently proves that he merely executed the operation for the production of an artificial pupil, FOR AN OPTICAL PURPOSE.

I therefore believe that the honor of the institution of iridectomy as a method for the cure of inflammatory processes in the eye, has still to be attributed exclusively to De Graefe.

Dr. O'Reilly, in the course of his paper, after the designation of Mr. Ryan's case, enters into some remarks on the nature of glaucoma, which to discuss all would lead us too far. We beg leave to remark briefly, that "the augmented convexity of the cornea in glaucoma and glaucomatous disease, or in consequence of the action of the recti muscles in looking at small objects," are mere theories, in which, it is true, many writers on ophthalmic surgery used to indulge. The recent investigations of the process of accommodation, carried on with mathematical exactitude by Helmholtz and others, have proved that neither cornea nor recti muscles have any part in the act of adjustment—that the surface of the cornea does not change its convexity, and that the recti muscles do not by their contraction exert any influence on the shape of the eyeball.

The ideas prevailing in regard to the nature of glaucoma have been so greatly changed since the invention of the ophthalmoscope, and through anatomical and microscopical examinations of pathological specimens, that Beer cannot any more be quoted as an authority on such matters. The changes in the hyaloid and the areolæ of the vitreous body (?), as well as the varicose state of the veins of the choroid, are, if they exist, certainly no pathognomonic symptoms of the disease. To put the changes of circulation in glaucoma on account of the contraction of the recti muscles, is evidently mere speculation. Why should they influence the circulation in disease, as they never interfere with it in a normal eye? Is their contraction modified in glaucoma? Then we would have to consider glaucoma as a disease of the eye muscles.

Altogether, Dr. O'Reilly's remarks are quite *à-propos*. I see with pleasure the subject of iridectomy ventilated, as the object of De Graefe in performing this operation is, it seems to me, only very superficially known here. In a paper on "The Operations of the Eye," published in the *Transactions of the American Medical Association* (1860), by Dr. Patten, of St. Louis, it is but briefly and incorrectly represented; and the single fact of the reprinting of the whole of the valueless article in the "Transactions," bears sufficient

proof how very little knowledge of and interest in this part of surgery exists in this country—assuming that the American Medical Association is to be considered as a body of enlightened representatives of the medical profession of the United States.

Iridectomy is undoubtedly the most important discovery in ophthalmic surgery, which has been made in this century, and has already raised a revolution in all operative oculistic procedures; but it cannot serve the interest of suffering humanity until deep-rooted prejudices as to the danger of the operation and its indications have been perfectly eradicated. The operation shares the fate of almost all great discoveries, and science waits ever patiently, cultivated by a few only, until all its apostles have become converted to the particulars of its progress!

BULLET WOUND EXPLORATION.

By RUFUS KING BROWNE, M.D.,

BRIGADE-SURGEON U.S.A., AND CHIEF MEDICAL OFFICER FOR NORFOLK, VA.

AN extremely simple change in the usual means to reach the end of a bullet track—the place of lodgment, or of following the track into and out of the tissues, has enabled me to succeed more frequently than usual; particularly in case the course of the track was either angular, or described a bend, or was in part tortuous. This change is to bend more or less abruptly the probe near its end. If a straight or slightly curved probe be introduced and pushed into the entrance of a bullet wound, its end will be detained at the first turn, bend, or deflection, which is the beginning of the second direction, and withheld from going further: if, moreover, the effort to carry it beyond be continued, by moving the hand, holding the outer end to and fro or around, the inward end will change its position very slightly if at all, and cannot by means of any movement of its outer end be diverted or carried much if at all from the spot of its detention; and should the extension of the wound from here be in a different direction at an angle or abrupt bend, the point will not be turned to engage the continuation of the track. If, however, a bend exist near the probed exploring end, so abrupt as to form an apex, this will rest against a variable spot in the wall of the track, above what would be in the first instance the point of detention:—but in the latter instance, if any detention occur, when the hand is moved to and fro, the apex or the bend will carry the point in a different direction and into any part of the track beyond which it continues in that direction. In all the wounded by bullets which reached the "Naval Hospital," Portsmouth, on the 9th of June, nearly 500, every bullet wound in which I saw and examined, this simple expedient of which I made no mention enabled me to follow the track, whether it terminated in the tissues or found a canal through and out of them, except in cases where the track opened into the thoracic cavity, or terminated in the pulmonary tissue. This expedient will be found to succeed perhaps in all cases where the track of the wound turns or bends in two or three directions. The bend in the probe should usually be about the distance from the probe point of the last joint of the finger from its tip. Although previous to being a witness to any bullet wound, I held the idea, having thought of it as an occasional change in the form of the catheter to prevent its becoming arrested in the urethra, I have never mentioned it except in one instance it succeeded readily, when the probe of uniform curve, in the hands of a perfectly skilful explorer, failed.

The case was a soldier who while in battle resting upon his right knee, the other flexed at a right angle, was struck by a minié ball which passed into the anterior muscle of the left hip, through behind the pubes, into and out of the bladder, and lodged a little to the right of the raphe, in the perineal fascia. Here there was a large fistulous gap leading to the neck of the bladder, from which dribbled the urine, and which in fact turned out to be of fistulous character, the ball being found just above and behind its

edge. At first the professional examiners, three, could not content themselves that one ball had made so various a wound—and the only way of ascertaining the fact was to explore and find a continuous canal from the orifice in the thighs to the fistulous opening, of which in these two points were the undivided termini. The exploration by the probe, as usual, was done, but failed to carry the probe beyond a certain point. The surgeon in charge, a most skillful and successful one, was abandoning the attempt, when permission was granted me to explore. The slight bend in the catheter I have stated, was made, and the end of the probe without detention in the track appeared through the fistulous opening. The first exploration had been arrested by an abrupt turn about the middle of the track, and this involved a second turn a little beyond. This expedient is simple, but perhaps will be found successful in all hands. Of course in the exploration of wounds, we all need to practise the lessons we have been taught respecting the handling in the introduction of the catheter. *No force must be used.* That I have never seen the probe used in bullet wounds as the catheter *should* be, is a very unpleasant experience in the army. I am satisfied that the best probe in any bullet wound, but very superficial ones, is the soft metallic or the lead probe—not because it is *softer* to the tissues, but because it can be instantly curved or bent, even when a part of its length is in the track of a wound. And the only forceps which should be used for the withdrawing of bullets is the mouse-tooth forceps (Thomas) described by my friend Prof. Hamilton, Brigade-Surgeon, U.S.A. The spoonbill or the dressing forceps can scarcely be prevented from inclosing in their grasp of the bullet (when that is accomplished), more or less of the tissue, which closed partly over the bullet; and this is to be torn by traction from its connexion in the withdrawal of the bullet. They are best only for the removal of spicula of bone, cloth, coagula, or anatomical debris.

CASE OF

ANEURISM OF THE ARTERIA INNOMINATA.

By CHARLES K. BRIDDON, M.D.

SURGEON OF THE NEW YORK DISPENSARY.

The patient was a stout, robust Englishman, of 36 years. He came under my treatment in the middle of September, of last year: he was suffering at that time from cough, stridulous in character, with scanty expectoration and occasional dyspnoea. On making a physical exploration of the chest, I found the percussion note clear everywhere, unless it might have been a shade duller below the sternal half of the right clavicle, and over the manubrium sterni; this was not clear, however, for the thoracic walls were so cushioned with fat that it was difficult to note a slight difference. Auscultation revealed loud, sibilant, and sonorous râles everywhere present. Over both lungs, the cardiac sounds were somewhat indistinct, but normal; there was no bruit over the region of the heart or great vessels. He was treated by expectorants, occasionally combined with anodynes and antispasmodics, but was in no way benefited thereby; paroxysms of dyspnoea became more frequent, and during several of these attacks, which were accompanied with convulsive coughing, he became vertiginous, and on one occasion lost his consciousness. He continued to attend to his business until the 28th of November, when I visited him at his house. He had had several attacks of convulsive coughing, during which he became purple in the face, and his dyspnoea was so great that he could not assume the recumbent position. On the 29th and 30th his condition was about the same; and during these three days he had sat in a chair, resting his arms upon the back of another placed in front of him, and he could not be induced, nor was he urged, to assume any other position.

On the evening of the 30th, I could detect no pulsation in the right radial artery, and it was indistinct in the other

branches given off from the same source; I carefully examined the region of the thoracic aorta, but could detect no bruit of any kind; but on the strength of the absence, or feeble pulsation in the vessels supplying the right upper extremity, I expressed my fears of aneurismal or other obstruction existing, and suggested a consultation with Prof. Clark, who visited the patient on the 30th. I did not take notes of the very careful examination made by the professor; he traced dullness occupying the upper portion of the sternum, directed my attention to a sound conveyed to the ear placed over the vertebra prominens, which gave the impression of tracheal compression; the air sounded as if it labored through a narrow chink, at least such was my conviction; no bruit was discovered, pulsation was very feeble in aforementioned vessels. And from these facts, I think he coincided in the diagnosis as to aneurism, or other obstruction, exerting pressure upon the trachea.

On the 31st, the patient was decidedly better, his breathing was more easy, and the pulsation in the right radial was easily made out; he spoke of his amendment in good spirits, and looked every way so much improved that I hoped the danger was averted for the time. I was sent for at 6 P.M., and found him dying, seated as I had left him in the chair. I attempted to administer stimulants, but desisted, and in a few moments he was dead.

I obtained the autopsy, which was made twenty hours after death. The thoracic parietes were loaded with fat, veins of the neck gorged, and discharging when incised a large quantity of black fluid blood. Lungs were somewhat emphysematous and adherent by old adhesions on the right side. Pericardium contained several ounces of serum; the heart was healthy.

Immediately above the semilunar valves of the aorta was an aneurismal pouch about the size of a goose's egg springing from the ascending portion of the arch; the opening into it was circular, about an inch or an inch and a quarter in diameter, and the lining membrane of the artery was continued over the margins of the opening into the sac, which was lined to the thickness of three-quarters of an inch with laminated fibrine. Above and behind this sac, was another of smaller dimensions pressing upon the trachea, and incorporated with it in a mass of condensed areolar and new tissue; the vagus of the right side was embedded in this deposit; from the top of the smaller sac arose the right carotid and subclavian, and the mouths of the vessels, as they arose from the sac, were compressed laterally by the elevation of the sac itself. The lining membrane of the trachea and bronchi was of a dusky red or maroon color; but at the point of compression there were no marks of thinning or ulceration.

From the appearance of the parts as represented in the above description, it is probable that the sac was formed out of the dilated tunics of the arteria innominata, and also of that portion of the aorta from which it springs.

A CASE OF

AN ENCYSTED CERVICAL TUMOR,

PECULIAR FROM THE IDIOSYNCRASY OF THE PATIENT.

By H. LASSING, M.D.

ARABELLA J—, æt. 17, of a strumous diathesis, was brought to my office for treatment of a cervical tumor, which one of the advertising fraternity had pronounced as "*chronic mumps verging into cancer.*" Upon examination I found an encysted tumor in the region of the cervical glands, commencing between the ramus of the jaw and mastoid process on the left side, and continuing down below the angle, which caused a protrusion in the throat, evidently by pressure upon the point of the styloid process. The hearing upon the side where the tumor was situated was slightly impaired, the stenosian duct on that side effused little or no saliva, the parotid gland being also slightly affected. Respiration with closed mouth difficult.

This had been first noticed about two years before I saw

the patient, and at first, sharp, shooting, lancinating pains were felt through the tumor; the tumor has gradually increased since. Patient has wasted away somewhat, appetite poor, habitually costive, and affected with leucorrhœa. Menstruation normal.

She has taken all the popular nostrums of the day, and been treated by Dr. Newton, and all the rest of his stamp. She has also been under the care of several medical men of eminence, but would not persevere, otherwise she would no doubt have been cured. In order to restore her general health somewhat, I prescribed purgatives of various kinds, to enumerate which would take more space than you can afford me; but none of all in the pharmacopœia, no matter in what shape it was administered, would act so as to produce a stool, without being attended with inconvenient and unpleasant symptoms, such as excessive emesis, hæmatemesis, melæna, hæmorrhoids, and sometimes menorrhagia. Only two remedies acted well, however, for a few times only, viz. a soap suppository, and enemata of cold water. Her stomach was extremely irritable, and could hardly bear anything in the shape of medicine, even if pleasant to the taste, or inclosed in capsules. When she attempted to take it she experienced spasms in the throat, and after it had passed into the stomach, she would retch and most generally eject it. Enemata produced colic, violent purging, and extreme pain. Bitter tonics were out of the question, her stomach would not retain them; acids fared no better; ferruginous preparations she could not be made to take, no matter how disguised; any persistence in an attempt to administer being always followed by a state bordering on catalepsy. To apply any liniment or ointment to the part had equally injurious effects, and in addition produced excoriations and extreme irritation. Once when the tumor was painted with very dilute tincture of iodine, she was thrown into convulsions which lasted forty-eight hours. I tried every remedy I could hear of to allay the irritation of her stomach, when I found, to my great surprise, that she would willingly drink large quantities of a tea of eupatorii foliæ, although she could not take any other bitter preparation, and could drink it more readily if aromatic stimulants were added. I administered this to her in large quantities, together with the lobelia inflata et laurus foliæ, which produced a copious alvine evacuation, and very easy but thorough emesis. Upon examination of the utensil which contained the matter ejected by the stomach, a very thick, foul, reeking, slimy mass was found floating on the top. In appearance it much resembled a placenta after delivery, and seemed to be composed of mucous and bilious particles. The liquid underneath was a dark brownish fluid, of the consistence of muddy water. The patient during, and after this operation, remarked, that this was "the easiest vomiting" she had ever had. After this I found no trouble in administering medicine to her, although I had tried various emetics unsuccessfully before. The irritation of the stomach recurred twice more during the treatment, but was each time conquered by the lobelia and laurus foliæ, administered in small quantities.

As to the tumor, by alternating stimulating embrocations and unguents, preventing irritation, and improving her general health, it was reduced about one-half by resolution, her hearing improved, respiration became more easy, and more saliva was furnished. Great care had to be used, as everything applied was quickly absorbed, and followed by constitutional symptoms. When it was found that nothing further could be gained by resolution, a resort to the knife was again proposed, but she would not submit to this. To administer chloroform or ether was impossible, as, from her previous experience, she had been thrown into violent convulsions by their mere smell in a dentist's room. I then applied electricity, as a tonic, stimulant, and anæsthetic; it acted as such, and answered every purpose. As a stimulant, it acted in two ways; as a direct stimulant, and by the contractions produced by it, particularly of the sternocleidomastoideus. When a bistoury was connected with the negative pole of a direct magnetic current, and the con-

ductor of the positive pole held in the patient's hand, no trouble was experienced, and incisions could be freely made into the cysts, without inflicting pain. From these incisions large quantities of suppurated matter of a cheesy appearance exuded, which were eventually succeeded by small quantities of dark venous blood. When no more exuded, the sac was taken out, using electro-magnetism as the anæsthetic, and the wound healed up quickly by first intention, leaving but a small rectangular cicatrix. The tonics were continued for several weeks. Now, three months after the sac has been taken away, the patient looks much better, having gained some twenty pounds in weight, and her general health is good. No tumefaction of the part has since taken place.

Reports of Hospitals.

HOME FOR SICK AND WOUNDED SOLDIERS.

SEVERE CASE OF GUNSHOT WOUND—DEATH—AUTOPSY.

[Reported by DR. A. E. M. PURDY, House Surgeon.]

CHARLES MUNSON, private, Co. K, 2d Regiment, N. Y. S. M., while working in the trenches at Yorktown, received a shell wound in the elbow, and also a gunshot wound in the back, at the top of the sacrum. After being wounded he was able to walk some distance. He was sent to the General Hospital at Yorktown, and while there several pieces of bone were extracted from the wound in the elbow-joint. The wound in the back gave but little trouble.

Upon arriving at this hospital, May 25th, the arm was permanently flexed, presenting at the elbow an extensive fungoid appearance, the wound being five inches in length and three in breadth, causing the most intense pain. The wound in the back healed kindly, giving little or no trouble. Simple water-dressings were applied to the elbow-joint; but the treatment was without avail, and as the system was greatly below par, and nothing was to be gained by delay, it was therefore determined to amputate. On the 31st of May, the ordinary circular operation at the middle third of the humerus, was performed.

The patient appeared to do well until the 4th of June, when he complained of great pain in the knee, followed by a violent chill; brandy, quinine, and warm applications were used to restore warmth to the circulation. Another chill of less violence succeeded in the afternoon of the same day, after which the temperature of the affected limb being slightly increased, with a pulse of 140 per minute, it was thought advisable to administer the following prescription:—R. Tr. aconiti rad., gtt. xvj.; aq. ʒij.; M. To be taken in teaspoonful doses, every second hour.

In twenty-four hours the pulse was reduced to 100, when the aconite was discontinued.

The temperature of the leg continued above the normal standard, with pain and excessive swelling, causing tension of the integument. It now became necessary to give twenty drops Magendie's sol. morph., to insure sleep. The wound in the back at this time was almost healed.

Together with the chills, which had now lost somewhat of their strength, profuse perspiration at the time set in, which weakened still more his already debilitated frame.

The quinine, which he had been taking in the form of pills, was now ordered in solution, with the excess of the acid sufficient to make ten drops to each dose, given every fourth hour. This treatment somewhat relieved him.

About two weeks after the commencement of the attack, he began to complain of his mouth, with great difficulty of deglutition. Upon examination cancerous ulcers were found upon the tongue and mucous membrane of the mouth. Chlorate of potassa was used, but with little benefit; also sodæ biboras, with honey, and various other remedies, but all to no purpose. During the course of the disease there was a very troublesome diarrhœa, alternating with consti-

pation. The chills continued, but of a more feeble character. During this time the wound from the amputation was not progressing favorably; the discharge was scanty, and the stump painful when moved. The leg in the progress of the disease became smaller, and at the time of his death assumed the normal size.

All remedies failed to afford relief, and he gradually sank, dying on the evening of June 29th, thirty-five days after admission, and thirty after the operation.

Autopsy ten hours after death.—An incision was made along the course of the femoral artery, and upon coming down to the sheath of the vessels, they were found so firmly adherent that they could only be separated with the greatest difficulty. The artery was perfectly normal, and the vein greatly distended, with irregularities in its calibre at different parts, and in tracing it out, one of the smaller branches being divided, a considerable quantity of pus escaped.

The greatest amount of disease was about Poupart's ligament.

On continuing the dissection beneath the vein on the upper third of the thigh, the scalpel cut into quite a large abscess among the muscles.

Upon removing the whole of the femoral and internal iliac veins, and dividing the former, a complete plug of blood and pus was found.

A considerable interest having arisen as to whether the wound in the back had any connexion with the venous trouble, a thorough examination revealed no such trajet of the ball.

The wound in the back was no doubt produced by a piece of the same shell which caused the wound of the elbow. The kidneys and lungs were in a normal condition; the liver gave no evidence of venous trouble.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

STATED MEETING, May 14, 1862.

DR. T. C. FINNELL, PRESIDENT, IN THE CHAIR.

ANTE-MORTEM CLOT.

DR. AUSTIN FLINT exhibited a heart, in the left ventricle of which was found an ante-mortem clot, white and dense, arranged so as to form a coil partly around the columns of the mitral valve, tying it together. The liver and kidneys were fatty, the former weighing nine pounds. The symptoms immediately preceding death were, a feeble pulse and dyspnoea. The patient was in a semi-erect posture at the time death occurred. Dr. F. called the attention of the Society to the accidental formation of clots in various diseases, and related two cases of pneumonia in which the patients of a sudden became afflicted with increased dyspnoea, the action of the heart at the same time becoming much enfeebled, and death following soon after.

DESTRUCTIVE INFLAMMATION OF KNEE-JOINT.

DR. FINNELL presented the bones of the knee-joint taken from a boy aged seven years, whose limb was amputated at St. Vincent's Hospital, May 19th, 1862. At the age of two years the left knee-joint was injured by a fall, and was followed by acute synovitis. The disease was allowed to proceed without any medical or surgical treatment, and at the end of one year the limb was flexed at an acute angle, the joint much enlarged, and a small fistulous opening on the inner condyle of the femur. At the end of the second year the dislocation of the joint was complete, the posterior surface of the femoral condyles resting on the articular surfaces of the tibia, projecting at least half an inch in front of the tibia. The boy's general condition was not much altered by the gradual process of the diseased articulation. He entered St. Vincent's Hospital in the early part of June, 1862, in order to obtain relief from the deformity which

had now been existing five years. On consultation, it was decided to divide the hamstring tendons, and then by means of the weight and pulley endeavor to get the limb in better position. On the 8th of April I had the boy etherized, and proceeded to divide the tendon of the biceps, then the sartorius gracilis semimembranosus and the semitendinosus. The limb could be very little extended, notwithstanding all the tendons were freely divided. Cold water dressings were applied, and the boy put to bed. On the fourth day after the operation a five pound weight and pulley was adjusted to the limb, and enabled me to get the femur and tibia at right angles without much annoyance to the patient. On the 16th of April the inflammatory condition of the joint obliged me to dispense with the weight. The boy became feverish, lost his appetite, and was gradually losing strength. It was becoming evident that amputation was indicated. My term of service at the hospital having expired, the patient passed into the hands of Dr. Thenbaud, who removed the limb by the flap operation on the 19th inst. A dissection of the parts shows the disease to have been much more extensive than was at first supposed. The cartilage covering the ends of the bones had almost entirely disappeared; only a small fragment could be seen near the insertion of the crucial ligament. In the vicinity of the divided tendons suppuration had taken place extensively, the fasciæ of the thigh and leg forcing the pus between the muscles. The patella was roughened, and the cancellated tissue of the tibia and femur were in a carious and softened condition. The boy is doing well after the amputation, and promises to make a good recovery.

EXTIRPATION OF EYE, ETC.

DR. NOYES exhibited an eye which he had removed two weeks before from the person of a medical man from the country, 36 years of age. The eye was lost in childhood by an injury which produced rupture of the globe, and for a period of many years it gave him no trouble, vision of the remaining eye continuing good. During the last three years, however, he began to have dimness in the sound eye, accompanied by muscæ volitantes. There was only occasional pain over the eyebrow of the lost eye. He came to New York in February last, and sought advice at the Eye Infirmary. There was posterior synochia present, and the pupil was reduced to two lines in extent. He was told that all the trouble was due to the injured eye, and that the remedy was extirpation. He returned home, not satisfied with the decision; but his eyesight deteriorated so rapidly, that at the end of a fortnight he again presented himself ready for any operation that might be deemed necessary. The injured eye was then tender on pressure, and he had suffered considerably from supra-orbital neuralgia. The vision of the remaining eye was then so much disturbed, that he could scarcely discern the heading of a newspaper. The operation of extirpation was performed, but he was soon after seized with suppuration of the cellular tissue in the orbit, which gave rise to very alarming typhoid symptoms. A puncture was made deep in the orbit, relieving the tension, when the urgent symptoms subsided. For two or three days the remaining eye was chemotic, and discharged considerably. Subsequently when this eye was examined, the synochia was found so extensive as to leave very little hope of restoration of perfect vision short of the formation of an artificial pupil. The examination of the eye that was removed showed that the choroid had undergone calcification, and the microscopic examination disclosed the presence of bony matter already developed.

TUMOR OF ORBIT.

DR. NOYES exhibited a second specimen, a tumor removed from the orbit of a young man, twenty-five years of age, who had always enjoyed good general health. At the time he first presented himself the right eye protruded to such an extent as that the edge of its upper lid was fully an inch in advance of the upper lid of the opposite

eye, and the centre of the pupil was half an inch lower than the corresponding point of the opposite eye. The patient stated that the protrusion of the eyeball had been of gradual development—in fact, he thought he had been born with it. It had never been painful, nor had it been attended with inflammatory symptoms. The vision of the affected eye was remarkably good; the same might be said of the movements of the eye. He had never suffered from any double vision. There was no syphilitic taint of the system, neither was there any hereditary predisposition to cancer. The lachrymal gland was pushed down to such an extent, as, when the upper lid was everted, to present itself at the edge of the palpebral conjunctiva. The tumor presented itself in the form of a process from the outer surface and upper edge of the orbit, and could be felt as a hard mass, as far as the supra-orbital foramen. Dr. Noyes was of the opinion the tumor was a production of some sort between the periosteum and roof of the orbit, possibly a cyst or fibrous tumor. The operation was undertaken with a view, if possible, of saving the eyeball. The incision was commenced at the outer angle of the lids, carried outwards three-quarters of an inch, and thence along the brow, terminating at the supra-orbital foramen. The tunica oculi being then slit up, the tumor was discovered attached to the foramen lacerum anterius. It was removed in different pieces. The gland which showed itself at the margin of the lid was only a secondary one; the main gland was found situated further back, and, the major part of it having undergone degeneration, was removed with the tumor; two or three stitches were taken in the conjunctiva and integument. Some hæmorrhage occurred in the orbit in consequence of the violent actions of the patient when recovering from the anaesthesia. The result was that two hours after, by the accumulation of blood behind, the eyeball was as prominent as ever. The hæmorrhage was controlled by compresses and bandage, which was kept applied for twenty-four hours, at the end of which time vision was found undisturbed. There was, however, subsequent sloughing of the cornea owing to his inability to close the lids, and at the end of four weeks there is a great deal of opacity. An abscess had also formed in the upper lid, causing contraction and distortion of the same. The movements of the eyeball were perfect. The tumor proved to be fibrous in character, presenting under the microscope fibrous tissue in abundance, with a large amount of free nuclei in the fibres.

Dr. LEWIS SMITH presented a portion of the base of the brain removed from a boy who died at the age of two years and eight months. He belonged to a healthy family, and during the past year had been in good health. During the first sixteen months of his life he suffered from two or three serious attacks of sickness, one of which was erysipelas, and in these attacks there were symptoms of convulsions, though none occurred. In the latter part of March the mother noticed that he was fretful at night, and on asking the cause he referred to his abdomen as the seat of his distress. Little attention was given to his complaint at first, but, continuing to grow worse, Dr. S. was called in to see him on the fifth of April. The little patient was then walking about the room. His head was large in proportion to the size of the body; his tongue was covered with a thick white fur; his stomach was irritable; bowels tending to constipation; the pulse and respiration were accelerated. There was no headache, no unusual heat of the head. Slight uneasiness of the abdomen was complained of in the region of the umbilicus, but that was about all. A purgative dose of calomel was prescribed. At the next visit vomiting commenced, and continued at longer or shorter intervals until the tenth of April, despite every remedy. During these five days very little food could be retained upon the stomach. About the tenth of April, the sighing respiration and intermittent pulse gave rise to a suspicion of disease of the brain, and an opinion to that effect was expressed to the family. Counter-irritation behind the ears was

employed, calomel as an occasional purgative, and also iodide of potassium, but to no purpose; the child died on the seventeenth of April. The sighing respiration and intermittent pulse continued to the last, and he was conscious up to within twenty-four hours of his death.

Autopsy.—Abdominal organs entirely healthy. The upper surface of brain was slightly congested, but there was no opacity of the membrane. The lateral ventricles contained about 3i. of clear serum. The foramen of Monro was unusually large. At the base of the brain at different points, in the fissure of Sylvius, and along the sides of the hemispheres low down, were deposits of tubercles, ascertained to be such by microscopical examination. No tubercles were found in any other part of the body, the mesenteric glands being perfectly healthy. In nineteen cases of Hydrocephalus that Dr. S. had preserved notes of, ten occurred in scrofulous children. He had also found that tubercular meningitis was more common in those children who were under one year of age when attacked.

The meeting then adjourned.

Progress of Medical Science.

TRANSLATED FROM THE FRENCH BY DR. P. F. C. DESLANDES.

HYGIENE OF MILITARY HOSPITALS.

(Continued from p. 28.)

As to the places of the beds in our military hospitals, they are against the piers of the rooms instead of standing against the windows whose fresh air might aggravate certain diseases or induce others, such as catarrhal affections, rheumatisms, neuralgia, etc. For the same reason the beds should not touch the walls, which partly suspend the circulation of the ambient air, and get impregnated with dampness in winter, and with heat in summer.

A bed rather elevated than too low preserves the patient from the unwholesome emanations of the surface of the floor, and facilitates medical exploration and the use of the different appliances of surgery.

Stretchers furnished with a straw mattress suffice for temporary hospitals for the army, or simply straw beds for the provisional ambulances; but we must avoid there as elsewhere the crowding together of the sick.

All the systems of artificial aeration of MM. Leon Duvoir and Leblanc, Thomas and Laurens, Van Weeke, Grouvelle, and Chevalier, having not had so far, apparently at least, a marked influence on the decrease of mortality, natural ventilation by means of opposite windows remains the simplest and easiest mode of aeration, if they have at their upper part lattices to preserve the patient from the direct contact of the air. The insufficiency or excess of natural, and the difficulties of artificial ventilation by means of apparatus which scatter the miasmata on the spot, without expelling or destroying them, have led to the use of a great many disinfecting agents. M. Nonat speaks highly of results obtained by permanent fumigation of dilute chloride of lime, placed in vases through the rooms and renewed every three or four days. The dangers of infection arise from the vitiation of the air, particularly at night, the natural excretions of the patients, their fetid breath and perspiration, the expectoration of gases and liquids, alvine dejections, evacuations, and urinary fistulae, all these joined to accidental secretions, the suppuration of wounds and ulcers, the putridity of hospital gangrene, are so many mephitic beds from which may arise the most formidable epidemics in ambulances and military hospitals, on the trail of armies in campaign, exhausted by all the fatigue and privations of wars, and above all, in the disastrous conditions of *encombrement* (crowding).

As regards the treatment of the sick in military hospitals, I may mention the advantageous influence of the first attentions given in the infirmaries or on the road by the physicians; ablution for each soldier that enters the hospital,

simple dressing for the wounds, water substituted for poultices, union by the first intention, replaced in many cases by semi-union, aided by position; rare dressing, which, like non-removable apparatus, offers such immense advantages in army practice, particularly in the midst of the dangers of crowding and the imminence of epidemics. I should mention also the progressive tendencies of the profession towards conservative surgery, and all the resources of therapeutics substituted now with more perseverance than ever, in operations. Let us not forget the happy results of regulation laws enforcing the inspection of the diverse uses and distribution either of medicine or food, and the carrying out of all the prescriptions of hospital hygiene.

A sufficiently substantial and restorative food even in cases of wounds and after operations has the happiest influence on the recovery of men exhausted by hemorrhages, suppuration, want of food, and a prolonged confinement to bed. This, with well established ventilation, is one of the two conditions of celebrity of the London hospitals, where the operated are from the first day put under a generous diet: wine, beef tea, and opium in small doses. This treatment, without opium, but with substantial food, gives good results in campaigns and in ambulances, as well as in naval hospitals, against debilitating diseases, and particularly against scurvy. What then necessary is that the supplies should suffer neither delay nor diminution.

The daily tasting of the food by the chief health officers is a sure guarantee of the quality and quantity of the commodities furnished. A special register records their acceptance or rejection.

The exercise of walking, which obliges all the patients not confined to bed to leave their rooms, has a double advantage for both those indoors and out of doors. The lame themselves or paraplegic can take exercise in the open air in small hand-carriages. The Swedish movement cure of Lind would be very useful to our soldiers accustomed to gymnastic exercises.

Moral influences act also beneficially on the sick soldier: such as the pleasure of meeting friends, or of obtaining leave of absence, and the consolations which it is the peculiar duty of chaplains to bestow.

Let us add that the threefold superintendence, medical, administrative, and military; regular conferences on all the requirements of the service; the daily visits of the officers on duty to receive and record in a register the complaints of the sick; similar visits from the health officers; lastly the general yearly inspections, offer as many guaranties for the salubrity of military hospitals.

A ward for convalescents should be attached to every establishment, and would be a means of emptying the sick rooms—a resource useful to the soldiers too poor or too far away from their families to ask for a furlough.

It is by the regular removal of a certain number of patients to other places, that military hospitals can also be preserved from the dangers of crowding. These evacuations should comprise the most able-bodied men and those affected with venereal diseases, able to support the journey.

The leave of absence granted every year to convalescents, the discharges delivered every three months to the sick of the army, complete, with the removals, some of the advantages of hospital hygiene; but all the soldiers cannot take advantage of these furloughs, and the wards set apart in each infirmary for the convalescents are no longer sufficient.

Two military hospitals might be erected for convalescents with marked advantages. There would be a larger number of recoveries, and a diminution in the leaves of absence and the discharges. The sojourn in the hospital would be shortened, and relapses foreseen by this measure, so desirable for the sanitary condition of the army.

YELLOW FEVER AT THE WEST COAST OF AFRICA.—BONNY and New Calabar have been visited with the worst attack of yellow fever known for thirty-six years. Out of 140 whites, 75 have died within a month. Amongst the natives the mortality has been still greater.—*Lancet*.

American Medical Times.

SATURDAY, JULY 19, 1862.

DEATH-RATE IN HOSPITALS.

THE mortality statistics of the London and Parisian Hospitals, as furnished by Prof. LEE, from the social science papers, in his communication to this journal last week, teach an impressive lesson. In the eleven principal hospitals of London, with a daily average of three thousand patients, the percentage of mortality ranges from 8.83 to 11.19 per cent. The nine largest Parisian hospitals, with a daily population of nearly four thousand, have a mortality ranging from 15.70 per cent., in the Hospital Necker, and 21.64 in the Hôtel Dieu, to the shocking maximum of 35.27 per cent. in La Charité.

That this marked difference in rates of mortality is not owing to possible differences in classes of patients is evident from the fact presented in the same tables respecting mortality following amputations, a class of cases necessarily similar and with equally favorable chances of life in both cities. In London hospitals amputations give 25.3 per cent. of fatal cases; in Paris, 45.6 per cent.

The causes of this difference we may examine hereafter; the statistics are given to illustrate the difference in hospital death-rates where the causes of such disparity are equivalent to the causes of excessive mortality in hospitals generally. The steady diminution of the rate of mortality in the same hospitals under sanitary works of improvement would at once furnish the climatic argument in favor of such works of reform, and indicate the relations which they sustain to curative and preventive medicine. This was forcibly illustrated in the British military hospitals on the Bosphorus, from February to July, 1855. We copy from Miss NIGHTINGALE's evidence before the Royal Commission:—

Statistics of the Hospitals on the Bosphorus for six periods of twenty-one days each, commencing February 24th and ending June 30th, 1855.

Time.	Sick Population.	Cases treated.	Deaths.	Mortality.	
				Annual rate per cent. per annum in sick population.	Percentage on cases treated.
1855.					
Feb. 25.....	3,770	1,621	510	935	31.5
March 18.....	3,806	1,650	937	125	14.4
April 8.....	2,808	1,190	127	79	10.7
April 29.....	2,018	1,350	70	60	5.3
May 20.....	1,504	996	48	56	4.8
June 10.....	1,442	1,266	28	34	2.2
And the twenty following days.					
196 days [total].	2,501 [average]	8,070 [total]	1,090 [total]	118 [average]	12.6 [average]

Here we observe the percentage of mortality on cases treated fell steadily, in given periods of twenty-one days, from 31.5—14.4—10.7—5.2—4.8 to 2.2 per cent., while the average residence in hospital fell from forty-nine to twenty-four days for each patient.

The sanitary condition and causes of improvement of those hospitals are thus stated by Miss NIGHTINGALE:—

"The sanitary conditions of the hospitals of Scutari were

inferior in point of crowding, ventilation, drainage, and cleanliness, up to the middle of March, 1855, to any civil hospital, or to the poorest houses in the worst part of the civil population of any large town that I have seen.

"After the sanitary works undertaken at that date were executed, I know no buildings in the world which I could compare with them in these points, the original defect of construction of course excepted."

With such a statement before us we need not inquire for other causes, though the type of prevailing maladies was doubtless somewhat more favorable to recoveries. Concurrent testimony of all observers in those hospitals positively declares that wherever the sewers and drains were cleaned or trapped, disappeared the chronic diarrhoea and dysentery that until then had not only been endemic in the hospitals, but were almost incurably fatal, seventy-eight per cent. being the death-rate. And the same testimony goes to show, also, that in connexion with such sanitary works and the radical improvement of the ventilation and general administration of the wards, typhoid sequelae, ophthalmia, and pyæmia at once disappeared, and that all the pulmonary and diathetic complications of the prevalent diseases were reduced to the minimum. These changes were wrought by the herculean efforts of a few humane and enlightened sanitarians, acting by authority of the Government. The rapidity of these surprising changes more than confirmed all that Miss NIGHTINGALE and the HON. SIDNEY HERBERT had claimed could and should be done by immediate measures and works of sanitary reform in the hospitals on the Bosphorus.

In the grand old hospitals of London, whose gloomy edifices transgress all rules of hygiene, and in the very midst of the dense population of that grim and smoky city, improvements in the rate of mortality, and in the increased air-space, ventilation, drainage, and administration, had gone on together until the death-rate was reduced from 1 to 4, to 1 in 10 or 11 even in Guy's and St. Thomas', while in Paris the improved and airy pavilions of Lariboisière are giving a death-rate less than half that of La Charité, and fifty per cent. less than the unventilated Hôtel Dieu. Such simple historical facts, as well as the plainest teachings of sanitary science, certainly warranted the efforts undertaken by the British Commission in reforming the army hospitals of the Bosphorus.

Are all of our readers aware what vulgar means were employed to bring about such life-saving? The vouchers from masons, plumbers, house-carpenters, and sewer-builders, would give the record of like wonderful improvements in Bellevue and Blockley, in which the death-rate has diminished by the most material and natural agencies from 1 in 5 or 6, to 1 in 10 or 15 of patients treated. But the kaleidoscope of incessant changes in these hospitals has obliterated the deep impression which such improvements should have made. However homely it may sound to fastidious ears, these were the agencies that were mainly instrumental in reducing the rate of mortality in the British Army hospitals in the East:

"The Sanitary Commission took with them such implements and apparatus as they knew would be required in the ventilation and sewerage of hospitals; and among these means were pipe-tubing, drainage-pipe, filters, ten thousand square feet of zinc plates for ventilation, hinges, pulleys, window fixtures, etc. Immediately sanitary works were commenced; first by thorough cleaning, both within and without the hospitals; old sewers were cleaned and

flushed, surface filth, refuse, and decaying materials, by thousands of cartloads were removed, and an abundant supply of fresh, pure water, air, and a generous diet were everywhere secured."

Such were the materials shipped at a hurried three-days' notice on the departure of Dr. SUTHERLAND and his two associates in the work of the Commission. How completely in harmony with such preparations are the following records, which we copy from the diary of Mr. Wilson, one of the superintendents of sanitary works there:—

"*March 24.*—Thirteen men, on an average, employed in cleansing the surface of the ground in the vicinity of the Barrack Hospital and at Kalali, in removing the refuse, burying animals, etc. During the week these collected and removed from the vicinity of the Barrack Hospital two hundred and two handcarts full of filth, rubbish, and offensive matter. Two tons of filth were removed at Kalali. The carcasses of fifteen dogs and two horses were buried, and the sewers of the Barrack Hospital were flushed.

"*Week ending April 21.*—The ground around the hospitals was cleansed. The filth and refuse removed amounted to four hundred and seventeen carts full. Water was carried to the flushing tanks, and the sewers and privies at the Barrack Hospital were flushed out twenty-four times. Peat charcoal was applied to the privies every day. A dead horse was buried."

Thus, outdoor and indoor, was the hygiene of those hospitals the subject of severest inquisition and the simplest methods of improvement, until the fatal train of zymotic and typhous maladies disappeared, and the rate of mortality fell below that of the best regulated civil hospitals.

The impressive lessons of such an example must not be lost in the eventful progress of the present great struggle of the American nation. Not less than one-sixth of our vast army is to-day in the hospital. And in the course of the ensuing twelve months the aggregate population of the hospitals will have equalled or exceeded the total numerical strength of the forces enlisted. What will be the percentage of mortality in our Military Hospitals? Experience thus far shows that the rate of mortality in general hospitals in different divisions of the forces ranges widely from three to thirty per cent., and that the causes of this wide range of death rates are readily understood.

The average rate of mortality in civil hospitals of New York and Philadelphia ranges from seven to ten per cent. of the total number of patients. Unquestionably even that moderate rate might be considerably reduced by means of further improvements in the external and internal hygiene of those hospitals, and especially if it were practicable to transfer their location to salubrious rural districts. It is not yet known what has been the average death-rate in the military hospitals; but upon the reliable authority of Mr. E. B. Elliot, the able statist and actuary of the United States Sanitary Commission, we know that about six per cent. of the forces in the grand army perished during the nine months ending March 1st, 1862; and that in the soldiers of the western states, the rate of mortality from all causes was between nine and ten per cent. At the same time we know, upon the same high authority, that the death-rate in the best military hospitals of the Potomac army during the last month fell below three per cent. of the cases treated.

From what is known, therefore, the conclusion is fully warranted that in some sections of the Army the death-rate in hospitals is vastly greater than in other sections,

and that the causes of such difference are worthy of careful inquiry. At the same time it should be borne in mind that the deaths in military hospitals are usually exceeded by the number of patients who are permanently invalided and discharged; and that the proportion of such persons lost to service bears an important relation to hospital hygiene and the rate of mortality. The following table from PROF. ELLIOT shows the exact per-centage of deaths, invaliding, and loss in action in the entire Army for nine months:—

THE ANNUAL RATES TO 1000 AVERAGE STRENGTH, FOR THE PERIOD OF NINE MONTHS, FROM JUNE 1, 1861, TO MARCH 1, 1862.

	New England and Middle Group of States.	Western Group of States.	Entire Army East and West.
Deaths.....	32	96	54
Discharges (for causes other than expiration of service, and mainly for disability).....	100	161	100
Of Missing in action not subsequently returning.....	18	6	14

These statistics are certainly more favorable to the strength of the forces than is popularly believed, but they forcibly present the fact, that in the progress of the war, up to the month of March last, there had been 32,400 deaths, and about 60,000 permanent invalids, to 8,400 soldiers lost and missing in actions with the enemy. How much may be effected by improved hygiene and practice in preventing the annihilation of another hundred regiments in nine months, remains to be demonstrated. By all the appliances or means of improved practice and hospital hygiene, let every medical officer strive to keep down the death-rate, and to prevent invaliding in the army, and thus insure the speedy triumph of the national arms, and give back to peaceful homes the thousands of lives thus gloriously saved.

THE WEEK.

THE ingenious tourniquet recently devised by PROF. CHARLES A. LEE and DR. LAMBERT, of Peekskill, N. Y., bids fair not only to become very extensively used in the army, but also to be the means of popularizing the art and habit of self cure after wounds upon the battle-field. This admirable instrument, which was fully described and illustrated in the MEDICAL TIMES, vol. iv., pages 280-281, has already been officially ordered to be furnished to their troops by the States of Connecticut, Maine, and New Hampshire.

We congratulate both the soldiers and the inventors of this improved tourniquet upon the prospective usefulness of the instrument. Many a bleeding limb will have its life-current saved, and without the usual impediment to the general circulation and muscular motion of such limbs wounded soldiers may march from the battle-field with this simple tourniquet self-applied. It is a timely improvement.

NEW YORK never was more honored than when on the 7th inst. her Commissioners of Charity threw open the best wards of Bellevue to the hundreds of disabled soldiers

arriving in the Hospital transports of the Sanitary Commission. In the brief period of an hour and a quarter the three hundred and sixty sick and wounded inmates of the "S. R. Spaulding" were transferred from ship to hospital, inspected by the surgeons, and made welcome to the best fare and nursing the city can furnish. The desirableness of hospitals located immediately by the waterside for our returning military patients, could nowhere be more happily illustrated. The Commissioners, on behalf of the city, offer to provide thus for three thousand disabled soldiers.

THE sudden death of DR. J. O. McWILLIAM, F.R.S., R.N., is noticed in the London Journals. Deeply will his decease be regretted, for he was an earnest, thoughtful, and noble-minded physician.

In his heroic conduct as surgeon of the famous "Niger expedition" his intelligence and fortitude were conspicuous. Returning to England, he was detailed as a special Commissioner to proceed to Boa Vista and the Cape de Verde Islands, to search out the evidence respecting the introduction and spread of Yellow Fever there, by the steamer "Eclair." His searching and faithful report on that subject is full of interest. Continuing his service in the navy, we soon find him successfully striving to elevate the official status and improve the condition of the Naval Surgeon. Finally receiving the appointment of Surgeon to the Customs upon the Thames, a sanitary position of responsibility and honor, he became Secretary of the Epidemiological Society, to whose interests he devoted much attention. As sanitary officer of the Customs on the Thames his labors were important, and his observations valuable. His last contribution, a posthumous paper, read before the Social Science Association, on the High Mortality of the Mercantile Marine, was deemed of such practical importance, that on motion of a noble Lord it was ordered to be brought under the notice of the Government. DR. McWILLIAM took a lively interest in our national affairs, and recently, in a private letter to a friend in this city, he urged the observance of an *entente cordiale* between the medical profession North and South.

Reviews.

MALIGNANT PUSTULE IN THE UNITED STATES. By A. N. BELL, M.D., Physician to Brooklyn City Hospital, etc., etc. [Republished from Transactions of N. Y. State Medical Society.] Albany: C. Van Benthuysen. 1862.

DR. BELL'S Essay is worthy the attention of our readers. It is one of the most practical papers that has yet appeared upon the subject of which it treats. His thesis is, that "malignant pustule is a specific disease, essentially septic and gangrenous, confined in its beginning to the cutaneous tissue, and generally to those parts of the surface that are habitually uncovered, and caused by animal poison."

Though we conceive that the last proposition of this definition or thesis yet remains undemonstrated, we cannot deny that the evidences are cumulative and harmonious in favor of the theory of an exclusively septic animal infection as the source of this malady in the human race. The author presents the natural history and the pathological phenomena of the malady in a very clear and truthful light, and, with tolerable success, endeavors to prove that the occurrence of this disease in man is always coincident with the prevalence of an epizootic.

The following is an abstract of Dr. Bell's description of the symptoms and phenomena of the pustule:—

"It first appears in the form of a painful swelling, which after a lapse of time varying from one to three days, rarely more, develops upon its central part, a small reddish or purple spot, accompanied with itching. In the course of twelve or fifteen hours more this spot changes into a bleb or vesicle, not usually larger than the head of a pin, containing a reddish brown or a yellowish fluid. Owing to the continued itching, the vesicle is ordinarily ruptured soon after its appearance; if otherwise, it dries up in about thirty-six hours, leaving the exposed derma dry, and generally of a livid color. Itching now ceases; and after a time varying from a few hours to a day, the centre of this discolored and denuded surface begins to grow hard, and becomes surrounded by an inflamed areola covered with numerous small vesicles similar to the vesicle which first appeared. The middle of this areola is depressed, and the color varies from yellow to black. It is now hard in the centre, and more painful than at any other stage. It is, however, a remarkable feature of malignant pustule that severe pain is generally absent; and this character, so different from all other acute inflammations of the skin, is a valuable negative diagnostic of the disease. During the next twenty-four or forty-eight hours the subcutaneous tissue becomes involved; the tumor strikes deeper and rapidly extends, yet it is so indurated as to be easily circumscribed, and its confines determined without difficulty. Meanwhile the central point, now of brown or livid hue, exceedingly hard and intesible, becomes gangrenous. If the disease ceases to make further progress, an inflamed circle of vivid redness now surrounds the gangrenous portion; the tumefaction which had before rapidly extended diminishes, and the patient experiences something like an agreeable warmth accompanied by a pulsatory motion of the affected part. The pulse which had before grown irritable and feeble revives, strength increases; and if there has been some degree of fever, accompanied with nausea, as occasionally happens, it is resolved into a gentle perspiration, and the nausea ceases. Suppuration now sets in between the living and the dead parts of the pustule, and the detachment of the gangrenous portion leaves a suppurating surface of variable extent in different cases. Should the disease on the contrary tend to an unfavorable issue, generally no suppuration takes place; the gangrene spreads rapidly from the centre to the circumference of the tumor; the pulse becomes smaller and more contracted; the patient complains of extreme lassitude with an inability to sleep, is attacked with fainting fits, and becomes passive as to the result: there is disinclination to take food or medicine, or to have anything done, and there is a total loss of appetite; the tongue is dry and brown; the features shrink; the skin is parched; the eyes are glassy; cardialgia and low delirium premonish the fatal termination. * * * *

"Another variety of malignant pustule which commonly attacks the hands or arms, is of less regular character, in some cases presenting an appearance and running a course very similar to circumscribed phlegmon, while in others it is exceedingly violent and fatal in a few hours; and in other cases still, it runs on for several weeks, and finally proves fatal rather from the effects of the disorder than from the disease itself. In the majority of these cases there is intense local pain in the affected part from the commencement, with enormous swelling, and more or less redness. A small vesicle or pustule forms in the centre, and proceeds to take on a gangrenous character. Sometimes it becomes circumscribed, and limits its action to the skin; but at other times numerous phlyctenæ cover the surface, and the destructive inflammation burrows into the cellular tissue which envelops the muscles, completely surrounding and disintegrating these organs, which sometimes become soft, black, and gangrenous; the blood-vessels and nerves also become involved, and, as a necessary consequence, the death of the part ensues. It is in this second variety of malignant pustule that arise the chief difficulties of a correct diagnosis.

"Of all the diseases that man is heir to there is none in which an early diagnosis is more important than in malignant pustule. It is indeed of such moment that the lapse of a few hours or a day may entail the most deplorable consequences. At its first appearance it might be mistaken for the hard, inflamed, and painful swelling sometimes produced by the bite of certain insects—hence it has been called *puce maligne*, or malignant flea bite. These bites, however, may always be recognized by the presence of a minute yellowish-colored point in the centre."

Both from the semeiology and the pathological changes

that characterize this singular and dangerous disease, it is manifestly allied to the *virus* maladies, if it is not one of the most striking and specific of that class. Certain it is that we do not yet know the precise nature and origin of the specific virus itself, and hence the etiology of the disease remains among the vexed questions of medicine.

Dr. BELL seems to believe that the virus is usually—probably always—conveyed and applied as contagious matter or fomites; and, needlessly, as we think, he would make the alighting of a fly upon the fated nose or lip of the victim, answer for the transportation of the hypothetical poison from 'stump-tail' sores of swill-milk stables or other original sources of the purulent poison, the ready and unsuspected medium for communicating the malady from beasts to man.

The initial origin of virus diseases, and the doubtful question of spontaneity in their development in man, as some claim even for small-pox, will necessarily be mooted until our means of chemical and histological analysis are vastly improved and extended. But our readers will be pleased to see how readily Dr. BELL finds sufficient and never-failing sources for the virus of the *pustule maligne*. He says:—

"In conclusion, it cannot have failed the attentive observer, that malignant pustule in the United States has been concurrent with epizootic disease; and, that so far as the prevalence of epizootic disease is concerned as a necessity for the existence of malignant pustule, both epidemically and sporadically, the conditions seem to be no less applicable to the United States than to France. With *murrain*, it has several times prevailed; and recently in various parts of the northern portion of the United States there appears to be reason sufficient to attribute it to the prevalence of *pleuro-pneumonia* among cattle, which, in some cases at least, according to the evidence before the legislative committee of Massachusetts, resulted in *gangrene of the lungs*—a disease, which, according to M. Dupuy, (*loc. cit.*) was observed to cause malignant pustule in man as long ago as 1827. For the occurrence of malignant pustule in New York and Brooklyn, I ascribe it to the most universally attributable of all causes, malignant carbuncle. For the evidence of the existence of this disease, I only need refer to any of the various reports of sanitary committees for several years past; or, if incredulous in regard to these reports, to the *swill-milk* stables in our midst, which are a disgrace to any civilized community."

The history and intimate pathology of morbid poisons, or *virus* diseases, as they have been denominated by a thoughtful writer, invite fresh observations and the closest study: for the present let all theories be as temporary scaffolding. We believe it will yet be found that the same poison or virus may be originated under various conditions.

Correspondence.

SARRACENIA PURPUREA IN SMALL-POX.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—At a meeting of the Medical Society of Nova Scotia, held at Halifax, on the 3d June, 1862, after reading a communication from Dr. Morris in the AMERICAN MEDICAL TIMES upon the "*Sarracenia purpurea*," it was

Resolved, That the Secretary be directed to communicate to that journal, that after investigating fully the cases upon which Dr. Morris based his opinion in favor of the so-called Indian Remedy for Small-pox, the following Resolution was passed by this Society, at the regular monthly meeting held May 6th, 1861.

Resolved, That this meeting, having listened attentively to the explanations of Dr. Morris, respecting the Indian Remedy for Small-pox (so called), is of the opinion that Dr. Morris has not had any reliable data upon which to ground any opinion in favor of its value as a remedial agent.

I am, sir, your obedient servant,

CHAS. J. GOSSIP, M.D., Secretary,
Med. Soc. of Nova Scotia.

HALIFAX, N. S., June 17, 1862.

Army Medical Intelligence.

HEALTH AND HOSPITALS IN MISSISSIPPI.

[Army Correspondence of the AMERICAN MEDICAL TIMES.]

Sir:—In my last letter to you I was in the field acting as Medical Director to the Left Wing of General Pope's command. Since then, I have been acting as Medical Inspector, and have spent most of my time travelling from one hospital to another, closing them up as rapidly as possible, and sending all those patients who would not be fit for duty in four weeks to northern hospitals.

All hospitals established in this section of country, since the battle of Shiloh, are in tents; and as the army advanced from the Tennessee river towards Corinth, division and general hospitals were established in the rear, as necessity required. All these hospitals have been closed, with one exception; that is six miles from here, on the Hamburg road, and efforts are now being made to close that also. It now has twelve hundred patients, of whom six hundred will probably be sent north, and the balance soon join their regiments. These patients have all been sent away on hospital boats, fitted up expressly for the business, provided with every convenience one can have in a well regulated hospital. As soon as the patients arrive on the boat they are stripped, washed, and clean clothes put on, and generally go to sleep, and make a business of it for twenty-four hours. These boats carry from two to six hundred, and they distribute the sick up the Mississippi river as far up as Davenport, Iowa, and will probably go still higher up that river as the summer advances; also to Cincinnati, and all intermediate points on the Ohio. The class of diseases most prevalent is diarrhoea, remitting fever assuming a typhoid character, perhaps some typhoid fever, typhoid pneumonia, rheumatism, and scurvy. When one sees the number sent away, they might be a little surprised at first and think the whole army a hospital, until made acquainted with the facts and circumstances.

From the very formation of the Army of the West, it became a fighting army; and for the first few months it was very poorly provided with anything, still the men were marched thousands of miles in the heats of summer and colds of winter, half-clothed, without tents, fighting often, guarding bridges and railroads, over malarious streams, and watching constantly. The winter campaign was pursued with as much vigor as the summer, and the weeks of constant exposure to wet, cold, and heat, at the battles of Fort Henry, Donelson, Pea Ridge, New Madrid, No. 10, Pittsburgh Landing or Shiloh, and the protracted approach to this place in consequence of wet weather, and the constant exposure, watching, anxiety, etc., have broken down many men, who will either have to be discharged or sent home to recuperate. The diarrhoea is very debilitating in its effects, but as a disease is not very active, and death seems to follow from protracted exhaustion, and generally not under three weeks. But the most singular of all diseases is a species of land scurvy that is very insidious in its effects, and I think many men are suffering from it, who are being treated for many other diseases. General debility appears to be an important cause of this malady; the men complain they are daily becoming weaker, great muscular weakness, sometimes soreness with red spots, ecchymotic and swollen feet and legs, rheumatic pains, affecting bones, muscles, or any and every portion of the body. Some have pale, waxy, puffy, and anæmic swelling about the face; a few show ulcerated gums and mucous membrane, but they are comparatively few, appetite capricious and bowels irregular, but generally have diarrhoea.

Many of these men show no symptoms by mouth or countenance, and the indications of health are so striking that their names have been stricken from the surgeon's list and put to light duty, and die in an hour. Others complaining of debility walk to the spring, fall down and die.

This condition is very deceptive, and so far as I know, or have seen myself, there are no symptoms to indicate the extent of danger. The man complains of lassitude and debility, is walking about, and finally dies very suddenly, or is found dead under a tree, where he has lain down to rest, or in using the chamber dies from the effort. No opportunity has presented itself to me to make a 'post-mortem' of these cases, but from their frequency I am satisfied it can't be from diseases of the heart; and what disease, but scurvy, would allow a man to keep about, and finally cut him off so suddenly?

The Medical Director's office was moved from Pittsburgh Landing to this place, one week ago; but I hope it may not be kept here long, as I conceive the location very unhealthy from excessive heat, scarcity of water, and a great amount of animal decomposition. This whole region has been one vast camping ground for three hundred thousand men for weeks and months, and the mortality among men and animals, with camp garbage, renders the atmosphere anything but the purest and most healthy.

We labor at present under great difficulty in not being able to supply the sick with butter, eggs, milk, chickens, etc. They are not in the country to be purchased at any price; the railroad communication is not fully established, so as to procure these articles north, and ship down. I fear our sick list will not diminish, as it seems to be the policy of our generals to keep the army on the move; and long forced marches at this season of the year are not very conducive to health in this climate. The army of the West ought to rest for the summer and recuperate, and by October would be ready to complete what "General Summer" has not done for our enemies.

Respectfully yours,

CHARLES H. RAWSON,

Brig-Surg. and Acting Medical Inspector.

CORINTH, Miss., June 21, 1862.

Medical News.

HEALTH OF LIVERPOOL.—The Returns of the Registrar-General for the year 1861 showed a somewhat less favourable state of the public health throughout England than in 1860, and Liverpool contributed its full share to the increased mortality. The death-rate of the borough during the two preceding years was—according to the Medical Officer of Health—unprecedentedly low, and, as is frequently the case after a long period of great healthiness, it underwent an augmentation during the last year. Nevertheless, it did not rise above the average of the previous five years, and was much beneath the average of the years preceding 1856. The deaths registered during the fifty-two weeks were 12,933, being 1697 more than in the previous year, and about 600 less than the average of the preceding ten years, corrected for increase of population. In the parish the deaths were 8680, and in the out-towns 4253; giving for the former a death-rate of 31.9, for the latter of 24.3, and for the borough of 28.8 per 1000. This mortality is about equal to the average of the preceding five years; but as compared with the mean of the ten years, 1851–1860, there will be found a saving of about 600 lives, and as compared with that of the ten years preceding the Sanitary Act, the Returns show that, high as the mortality was, not less than 1650 lives were saved last year in Liverpool.—*Lancet*.

WE understand that Miss Garret's application to be admitted to examination by the Edinburgh College of Physicians has been rejected by a majority of two. At the London University, where this lady made similar application, she was more fortunate; for on that occasion the voting authority was equally divided on the case, and decided against her by the chairman.—*British Medical Journal*.

METEOROLOGY AND NECROLOGY OF THE WEEK IN THE CITY AND COUNTY OF NEW YORK.

Abstract of the Official Report.

From the 7th day of June to the 14th day of July, 1862.

Deaths.—Men, 167; women, 55; boys, 193; girls, 163—total, 538. Adults, 192; children, 346; males, 300; females, 238; colored, 2. Infants under two years of age, 265. Children reported of native parents, 80; foreign, 184.

Among the causes of death we notice:—Apoplexy, 8; infantile convulsions, 49; croup, 5; diphtheria, 18; scarlet fever, 28; typhus and typhoid fevers, 19; consumption, 65; small-pox, 2; measles, 4; dropsy of head, 22; infantile marasmus, 29; cholera infantum, 14; inflammation of brain, 10; of bowels, 13; of lungs, 15; bronchitis, 5; congestion of brain, 17; of lungs, 4; erysipelas, 3; diarrhoea and dysentery, 19. 319 deaths occurred from acute disease, and 46 from violent causes. 417 were native, and 141 foreign; of whom 84 came from Ireland; 58 died in the City Charities; of whom 12 were in the Bellevue Hospital, and 6 died in the Emigrant Institution.

Abstract of the Atmospheric Record of the Eastern Dispensary, kept in the Market Building, No. 57 Essex street, New York.

July 1862	Barometer.		Temperature.			Difference of dry and wet bulb, Thrm.		Wind.	Mean amount of cloud.	Humidity, Sat. 1000.
	Mean height.	Daily range.	Mean.	Min.	Max.	Mean.	Max.			
	In.	In.	"	"	"	"	"			
6th.	29.97	.20	87	80	95	9	11	S. W.	4	545
7th.	29.96	.10	85	76	91	10	15	S. W.	4	560
8th.	29.10	.20	82	74	90	11	16	S. W.	3	470
9th.	29.86	.20	85	80	90	13	19	S. W.	4	410
10th.	29.90	.10	75	70	80	10	15	S. W.	9	555
11th.	30.07	.20	67	59	75	11	15	N. W.	0	440
12th.	29.85	.18	71	59	82	10	15	W. to S. W.	8	540

REMARKS.—6th, Variable sunrise, very sultry day, cloudy P.M. 7th, Cloudy P.M. with very light rain and lightning. 8th, Cloudy A.M., with very light rain. 9th, Variable sky; fresh wind P.M., with very light rain at one. 10th, Day cloudy, light rain at 8 A.M., lurid moon. 11th, Fine day, with fresh wind. 12th, Cloudy P.M., lurid moon.

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to L. I. College Hospital, Brooklyn, removed to St. Paul, Minn.

References.—C. L. Mitchell, M.D., T. L. Mason, M.D., Prof. E. N. Chapman, M.D., of Brooklyn; Prof. Austin Flint, M.D., Prof. B. F. Barker M.D., of New York.

To the Medical Profession.—Dr. I.

Parigot has changed his residence and is prepared to receive a very limited number of patients in his country house at Hastings, on the Hudson; he can be consulted in town at Dr. Douglas' Office, No. 12 Clinton Place, on Tuesdays and Saturdays, for Nervous Diseases and Medico-Legal questions.

American Journal of Ophthalmology

JULIUS HOMBERGER, M.D., EDITOR.



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Appia (P. L.) The Ambulance Surgeon, or Practical Observations on Gunshot Wounds. 12mo. Edinburgh, 1862. \$1.50.

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Psychological Inquiries. The Second

Part; Being a Series of Essays intended to Illustrate Some Points in the Physical and Moral History of Man. By Sir Benjamin C. Brodie, M.D. 12mo. London, 1862. \$1.60.

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Consumption, its Early and Remediable Stages. By Edwards Smith, M.D. 8vo. London, 1862. \$3.25.

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On Uterine and Ovarian Inflammation; and on the Physiology and Diseases of Menstruation. By E. J. Tilt, M.D. Third edition, with Colored Plates. 8vo. London, 1862. \$3.75.

BAILLIERE BROTHERS, 440 Broadway, N. Y.

On the Various Contrivances by

which British and Foreign Orchids are fertilized by Insects, and on the good effects of Intercrossing. By Charles Darwin, M.A., F.R.S., etc. 8vo. London, 1862. \$2.80.

BAILLIERE BROTHERS, 440 Broadway, N. Y.

An Inquiry into the Medicinal Value

of the Excreta of Reptiles in Phthisis and some other Diseases, by J. Hastings, M.D. London, 1862. \$1.60.

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The Pathology and Treatment of

Phlegmasia Dolens, as Deduced from Clinical and Physiological Researches. By F. W. Mackenzie, M.D. 8vo. London, 1862. \$1.57.

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On Urine, Urinary Deposits, and

CALCULI: Their Microscopical and Chemical Examination, including the Chemical and Microscopical Apparatus required, and Tables for the Practical Examination of the Urine in Health and Disease; by Lionel S. Beale, M.D. Illustrated with numerous original Wood Engravings. Post 8vo. London, 1861. Price \$2.60.

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Traite Pratique de Medecine Legale,

Rédigé d'après des Observations Personnelles, par J. L. Casper. Traduit de l'Allemand, par G. G. Baillière. 2 vols. and Atlas of Colored Plates. Paris, 1862. \$3.25.

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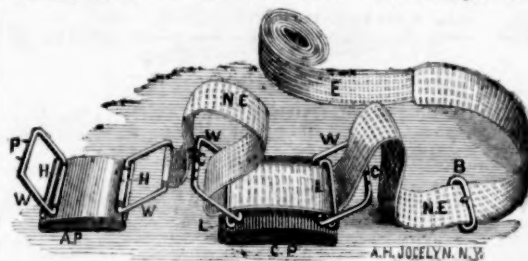
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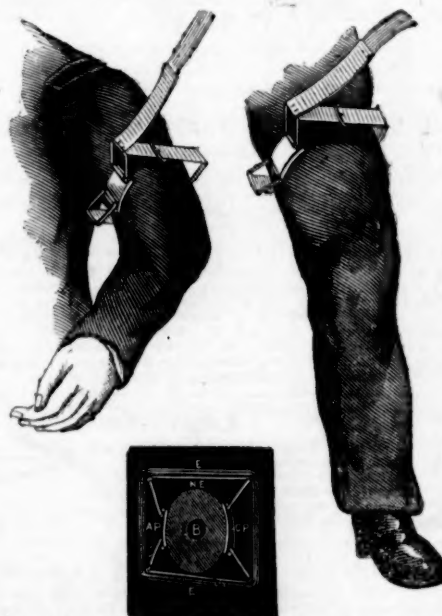
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